



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

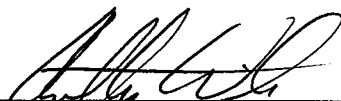
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002911  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using  
good laboratory practices and in accordance with federal or state  
approved methodologies.

  
\_\_\_\_\_  
Analytical Supervisor

**Lab-Sample Number:** K00002911001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 09/24/2009 12:13  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.52 pH Units  
**Chlorine, residual:**  
**Conductivity:** 71 uMHO  
**Temperature:** 22.48  
**Dissolved Oxygen:** 8.84 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	160	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.41J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	26	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.25J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	2.6	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.29J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	43	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.5J	µg/L	1.9	5	M Pattanayek	9/25/2009

**Lab-Sample Number:** K00002911001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 09/24/2009 12:13  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.52 pH Units  
**Chlorine, residual:**  
**Conductivity:** 71 uMHO  
**Temperature:** 22.48  
**Dissolved Oxygen:** 8.84 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

**Lab-Sample Number:** K00002911002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 09/24/2009 10:15  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.78 pH Units  
**Chlorine, residual:**  
**Conductivity:** 72 uMHO  
**Temperature:** 21.65  
**Dissolved Oxygen:** 8.71 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	310	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	250	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.60J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	26	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.21J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	0.68J	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.28J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	43	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.031J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	1.9J	µg/L	1.9	5	M Pattanayek	9/25/2009

**Lab-Sample Number:** K00002911002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 09/24/2009 10:15  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.78 pH Units  
**Chlorine, residual:**  
**Conductivity:** 72 uMHO  
**Temperature:** 21.65  
**Dissolved Oxygen:** 8.71 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

Lab-Sample Number: K00002911003

Project Name: TVA-Ash Spill

Sample Description: Approx 100' downstream from middle dredge pc

Sampler Project Name: TVA Ash Spill

Project Site No.: 2A

Station No.: Dredge Plume

Date/Time Collected: 09/24/2009 10:25

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received: 09/24/2009 13:28

Received By: E McCrary

**Field Determinations**

pH: 7.86 pH Units

Chlorine, residual: Conductivity: 112 uMHO

Temperature: 22.26

Dissolved Oxygen: 8.91 mg/L

Other:

Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	440	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	480	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.50J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	3.3J	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	38	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.1J	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.42J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	1.8	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.78J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	46	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.054J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	2.7J	µg/L	1.9	5	M Pattanayek	9/25/2009

<b>Lab-Sample Number:</b>	K00002911003	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.86      pH Units
<b>Sample Description:</b>	Approx 100' downstream from middle dredge pc	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	112      uMHO
<b>Project Site No.:</b>	2A	<b>Temperature:</b>	22.26
<b>Station No.:</b>	Dredge Plume	<b>Dissolved Oxygen:</b>	8.91      mg/L
<b>Date/Time Collected:</b>	09/24/2009    10:25	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>			
<b>Date/Time Received:</b>	09/24/2009    13:28		
<b>Received By:</b>	E McCrary		

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002911004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.9 at underwater weir  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2B  
**Station No.:** EMORY001.9RO  
**Date/Time Collected:** 09/24/2009 10:35  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.50 pH Units  
**Chlorine, residual:**  
**Conductivity:** 68 uMHO  
**Temperature:** 20.96  
**Dissolved Oxygen:** 8.37 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	430	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	510	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.51J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	4.0J	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	42	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.5J	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.47J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	1.9	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.83J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	58	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.063J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.4J	µg/L	1.9	5	M Pattanayek	9/25/2009



**Lab-Sample Number:** K00002911004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.9 at underwater weir  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2B  
**Station No.:** EMORY001.9RO  
**Date/Time Collected:** 09/24/2009 10:35  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

# Field Determinations

**pH:** 7.50 pH Units  
**Chlorine, residual:**  
**Conductivity:** 68 uMHO  
**Temperature:** 20.96  
**Dissolved Oxygen:** 8.37 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002911005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 09/24/2009 10:45  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.41 pH Units  
**Chlorine, residual:**  
**Conductivity:** 73 uMHO  
**Temperature:** 20.94  
**Dissolved Oxygen:** 8.68 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	400	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	460	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.43J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	3.1J	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	38	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.1J	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.43J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	1.7	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.75J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	47	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.040J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.2J	µg/L	1.9	5	M Pattanayek	9/25/2009

**Lab-Sample Number:** K00002911005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 09/24/2009 10:45  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.41 pH Units  
**Chlorine, residual:**  
**Conductivity:** 73 uMHO  
**Temperature:** 20.94  
**Dissolved Oxygen:** 8.68 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002911006  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 09/24/2009 10:55  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.30 pH Units  
**Chlorine, residual:**  
**Conductivity:** 72 uMHO  
**Temperature:** 21.27  
**Dissolved Oxygen:** 8.32 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	390	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	460	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.45J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	2.8J	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	39	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.4J	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.48J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	2.6	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.73J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	43	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.036J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	2.6J	µg/L	1.9	5	M Pattanayek	9/25/2009

**Lab-Sample Number:** K00002911006  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 09/24/2009 10:55  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**

**pH:** 7.30 pH Units  
**Chlorine, residual:**  
**Conductivity:** 72 uMHO  
**Temperature:** 21.27  
**Dissolved Oxygen:** 8.32 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

**Lab-Sample Number:** K00002911007  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 09/24/2009 11:10  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.37 pH Units  
**Chlorine, residual:**  
**Conductivity:** 114 uMHO  
**Temperature:** 23.11  
**Dissolved Oxygen:** 8.46 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	330	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	410	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.45J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	2.8J	µg/L	0.93	5	M Pattanayek	9/26/2009
Barium	44	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.36J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	3.7	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.66J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	44	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.092J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	4.0J	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.6J	µg/L	1.9	5	M Pattanayek	9/25/2009

Lab-Sample Number: K00002911007  
Project Name: TVA-Ash Spill  
Sample Description: Clinch River mile 2.3  
Sampler Project Name: TVA Ash Spill  
Project Site No.: 5  
Station No.: CLINC002.3RO  
Date/Time Collected: 09/24/2009 11:10  
Sampler's Name: Geoff Klein  
County: ROANE - 73  
Sample Matrix: Water  
EFO: Knoxville  
Sampling Agency: TDEC-WPC  
Billing Code: 327.34-20  
Send Report To: TDEC-WPC  
Agency Invoiced: TDEC-WPC  
Priority Date:  
Date/Time Received: 09/24/2009 13:28  
Received By: E McCrary

Field Determinations  
pH: 7.37 pH Units  
Chlorine, residual:  
Conductivity: 114 uMHO  
Temperature: 23.11  
Dissolved Oxygen: 8.46 mg/L  
Other:  
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL  
MDL - Method Detection Limit  
MQL - Method Quantitation Limit  
U - Undetected

**Lab-Sample Number:** K00002911008  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5A  
**Station No.:** KingAshOutF2  
**Date/Time Collected:** 09/24/2009 11:20  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**

**pH:** 7.46 pH Units  
**Chlorine, residual:**  
**Conductivity:** 94 uMHO  
**Temperature:** 23.09  
**Dissolved Oxygen:** 8.69 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	460	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	590	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.80J	µg/L	0.33	1	M Pattanayek	9/26/2009
Arsenic	9.5	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	51	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	0.11J	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.50J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	7.5	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.92J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	61	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	1.3J	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.13J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	7.7	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	5.1	µg/L	1.9	5	M Pattanayek	9/25/2009



**Lab-Sample Number:** K00002911008  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5A  
**Station No.:** KingAshOutF2  
**Date/Time Collected:** 09/24/2009 11:20  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.46 pH Units  
**Chlorine, residual:**  
**Conductivity:** 94 uMHO  
**Temperature:** 23.09  
**Dissolved Oxygen:** 8.69 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

<b>Lab-Sample Number:</b>	K00002911009	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.40 pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	89 uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	21.70
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	8.59 mg/L
<b>Date/Time Collected:</b>	09/24/2009 11:30	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>			
<b>Date/Time Received:</b>	09/24/2009 13:28		
<b>Received By:</b>	E McCrary		

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	400	µg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	420	µg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.46J	µg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	3.4J	µg/L	0.93	5	M Pattanayek	9/25/2009
Barium	36	µg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.38J	µg/L	0.04	1	M Pattanayek	9/25/2009
Copper	2.8	µg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.69J	µg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	44	µg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	2.8	µg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.038J	µg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.5J	µg/L	1.9	5	M Pattanayek	9/25/2009

<b>Lab-Sample Number:</b>	K00002911009	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.40      pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	89      uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	21.70
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	8.59      mg/L
<b>Date/Time Collected:</b>	09/24/2009    11:30	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>			
<b>Date/Time Received:</b>	09/24/2009    13:28		
<b>Received By:</b>	E McCrary		

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002911  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using good laboratory practices and in accordance with federal or state approved methodologies.

  
Analytical Supervisor

**Lab-Sample Number:** K00002911001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 09/24/2009 12:13  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 10/04/2009  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.52 pH Units  
**Chlorine, residual:**  
**Conductivity:** 71 uMHO  
**Temperature:** 22.48  
**Dissolved Oxygen:** 8.84 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	20	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	9/25/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002911002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 09/24/2009 10:15  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 10/04/2009  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.78 pH Units  
**Chlorine, residual:**  
**Conductivity:** 72 uMHO  
**Temperature:** 21.65  
**Dissolved Oxygen:** 8.71 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	24	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	22	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	9/25/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

Lab-Sample Number: K00002911003

Project Name: TVA-Ash Spill

Sample Description: Approx 100' downstream from middle dredge pc

Sampler Project Name: TVA Ash Spill

Project Site No.: 2A

Station No.: Dredge Plume

Date/Time Collected: 09/24/2009 10:25

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 10/04/2009

Date/Time Received: 09/24/2009 13:28

Received By: E McCrary

**Field Determinations**

pH: 7.86 pH Units

Chlorine, residual:

Conductivity: 112 uMHO

Temperature: 22.26

Dissolved Oxygen: 8.91 mg/L

Other:

Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	23	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	21	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	33	mg/L	10	10	A Peebles	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002911004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.9 at underwater weir  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2B  
**Station No.:** EMORY001.9RO  
**Date/Time Collected:** 09/24/2009 10:35  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 10/04/2009  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.50 pH Units  
**Chlorine, residual:**  
**Conductivity:** 68 uMHO  
**Temperature:** 20.96  
**Dissolved Oxygen:** 8.37 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	22	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	20	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	25	mg/L	10	10	A Peebles	9/25/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**



**Lab-Sample Number:** K00002911005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 09/24/2009 10:45  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 10/04/2009  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.41 pH Units  
**Chlorine, residual:**  
**Conductivity:** 73 uMHO  
**Temperature:** 20.94  
**Dissolved Oxygen:** 8.68 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	25	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	21	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	18	mg/L	10	10	A Peebles	9/25/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002911006  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 09/24/2009 10:55  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 10/04/2009  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.30 pH Units  
**Chlorine, residual:**  
**Conductivity:** 72 uMHO  
**Temperature:** 21.27  
**Dissolved Oxygen:** 8.32 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	44	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	37	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	18	mg/L	10	10	A Peebles	9/25/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002911007  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 09/24/2009 11:10  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 10/04/2009  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.37 pH Units  
**Chlorine, residual:**  
**Conductivity:** 114 uMHO  
**Temperature:** 23.11  
**Dissolved Oxygen:** 8.46 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	40	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	34	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	14	mg/L	10	10	A Peebles	9/25/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002911008  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5A  
**Station No.:** KingAshOutF2  
**Date/Time Collected:** 09/24/2009 11:20  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 10/04/2009  
**Date/Time Received:** 09/24/2009 13:28  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.46 pH Units  
**Chlorine, residual:**  
**Conductivity:** 94 uMHO  
**Temperature:** 23.09  
**Dissolved Oxygen:** 8.69 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	33	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	30	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	25	mg/L	10	10	A Peebles	9/25/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

<b>Lab-Sample Number:</b>	K00002911009	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.40      pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	89      uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	21.70
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	8.59      mg/L
<b>Date/Time Collected:</b>	09/24/2009    11:30	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>	10/04/2009		
<b>Date/Time Received:</b>	09/24/2009    13:28		
<b>Received By:</b>	E McCrary		

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	33	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	31	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	16	mg/L	10	10	A Peebles	9/25/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected